Remote Assessment 8.1

1. Describe the transformations to $f(x) = e^x$ that would have to take place to obtain the graph of the given function.

a) $g(x) = -2e^{3x} - 1$ ***1a. _____***

b) $h(x) = e^{4-8x}$ ***b._____***

2. The small Caribbean nation of Grenada had a population of about 100,000 in 1986 and at that time was growing at an annual rate of 1.6%. Write an exponential model for this growth and use it to predict the population in 1993.

2._____

_____

3. A species of bird was brought to an island where the bird has no natural predators. As a result, the bird population on the island grew substantially. Initially, 10 healthy birds were brought to the island. After 4 years, 75 birds were counted.

a.) What is the annual growth rate of birds on the island? a.)_____

b.) Write the exponential model for this situation. b.)_____

4. The graph of an exponential function passes through the points (0,2) and (3,1). Write the equation of this function.

4. _____

The percents of live births to unmarried mothers for selected years 1970-2003 are show in the table below

Year	*Percent*	*Year*	*Percent*
1970	*10.7*	*1990*	*28.0*
1975	*14.3*	*1995*	*32.2*
1980	*18.4*	*2000*	*33.2*
1985	*22.0*	*2003*	*34.6*

a. Find an exponential function that models the data, with y the percent and x the number of years from 1960.

b. What percent does this model predict for 2010?

c. Do you feel this would be an accurate model to predict this info today? Why or why not?